

JUN 26 2007

Application No.: 10/529,130

Docket No.: JCLA12006

REMARKS**Present Status of the Application**

The Office Action rejected claims 4, 5 and 7 under 35 U.S.C. 102(b) as being anticipated by Pevzner et al. (US-5,520,000) (hereinafter Pevzner). The Office Action rejected claim 9 under 35 U.S.C. 103(a) as being anticipated over Pevzner in view of White et al. (US-6,810,924) (hereinafter White). The Office Action objected claim 6, 8 and 10 as being depend upon a rejected base claim.

For at least the following reasons, Applicants respectfully submit claims 4-10 are in proper condition for allowance and reconsideration of this application is respectfully requested.

Discussion of the claim rejection under 35 USC 102(b)

The Office Action rejected claims 4, 5 and 7 under 35 U.S.C. 102(b) as being anticipated by Pevzner. In response to the rejection thereto, Applicants traverse this rejection. As such, Applicants submit that the claims 4, 5 and 7 and its dependent claims 6 and 8 are novel and unobvious over Pevzner, or any of the other cited references, taken alone or in combination, and thus should be allowed.

The features are recited in claim 4. For example, independent claim 4 recited the features.

With respect to claim 4, independent claim 4 recites the features as follows:

4. A fuel filling apparatus, for filling a hydrogen gas into a fuel tank of an automobile that uses the hydrogen gas as a fuel, the fuel filling apparatus comprising a heat exchanger using a liquid inert gas as a

Application No.: 10/529,130

Docket No.: JCLA12006

refrigerant for cooling the hydrogen gas, wherein the liquid inert gas not mix with the hydrogen gas.

... (Emphasis added)

Claims 5 also recite the similar features.

Pevzner (col. 4, lines 2-7) discloses, "A gaseous hydrogen outlet conduit 18 feeds gas to a lower portion of a gas/liquid mixer 20. A liquid hydrogen outlet conduit 22 feeds liquid hydrogen through a control valve 24 to an upper portion of gas/liquid mixer 20. A porous packing 25 enables gas entering, via conduit 18, into gas/liquid mixer 20 to percolate upwardly to an outlet conduit 26." Pevzner discloses that "The liquid hydrogen is used as a refrigerant. The gaseous hydrogen and liquid hydrogen are mixed in the gas/liquid mixer 20." However, in present invention, a liquid inert gas is used as a refrigerant. The liquid inert gas and the gaseous hydrogen are not mixed. The Pevzner fails to teach or suggest the limitation of "using a liquid inert gas as a refrigerant, wherein the liquid inert gas not mix with the hydrogen gas." as required by the present invention, as set forth in claims 4 and 5. Therefore, claims 4 and 5 should not be considered as being anticipated by Pevzner or any of the other cited references, taken alone or in combination, and is submitted as allowable.

The features are recited in claim 7. For example, independent claim 7 recited the features.

With respect to claim 4, independent claim 4 recites the features as follows:

Application No.: 10/529,130

Docket No.: JCLA12006

7. A fuel filling apparatus, for filling a hydrogen gas into a fuel tank of an automobile that uses the hydrogen gas as a fuel, the fuel filling apparatus comprising:

a flow modulating valve, for modulating a supply amount of a hydrogen gas; and

a cooling means using a liquid inert gas as a refrigerant, for cooling the hydrogen gas passing through the flow modulating valve, wherein the liquid inert gas not mix with the hydrogen gas.

... (Emphasis added)

Pevzner (col. 4, lines 2-7) discloses, "A gaseous hydrogen outlet conduit 18 feeds gas to a lower portion of a gas/liquid mixer 20. A liquid hydrogen outlet conduit 22 feeds liquid hydrogen through a control valve 24 to an upper portion of gas/liquid mixer 20. A porous packing 25 enables gas entering, via conduit 18, into gas/liquid mixer 20 to percolate upwardly to an outlet conduit 26." Pevzner discloses that "The liquid hydrogen is used as a refrigerant. The gaseous hydrogen and liquid hydrogen are mixed in the gas/liquid mixer 20." However, in present invention, a liquid inert gas is used as a refrigerant. The liquid inert gas and the gaseous hydrogen are not mixed. The Pevzner fails to teach or suggest the limitation of "using a liquid inert gas as a refrigerant, wherein the liquid inert gas not mix with the hydrogen gas." as required by the present invention, as set forth in claim 7. Therefore, claim 7 should not

Application No.: 10/529,130

Docket No.: JCLA12006

be considered as being anticipated by Pevzner or any of the other cited references, taken alone or in combination, and is submitted as allowable.

For failing to teach each and every limitation as set forth in claims 4, 5 and 7, Pevzner cannot be construed as anticipating the present invention, as set forth in claims 4, 5 and 7. As such, claims 4, 5 and 7 are submitted to be novel and unobvious over Pevzner, or any of the other cited references, taken alone or in combination, and thus should be allowed. For at least the same reasons, dependent claims 6 and 8 patently define over the prior art as a matter of law.

Discussion of the claim rejection under 35 USC 103(a)

The Office Action rejected claim 9 under 35 U.S.C. 103(a) as being anticipated over Pevzner in view of White. In response to the rejection thereto, Applicants have amended claim 9, and hereby otherwise traverse this rejection. As such, Applicants submit that the claim 9 and its dependent claim 10 are novel and unobvious over Pevzner, White or any of the other cited references, taken alone or in combination, and thus should be allowed.

The features are recited in claim 9. For example, independent claim 9 recited the features.

With respect to claim 9, independent claim 9 recites the features as follows:

9. A fuel filling method, for filling a hydrogen gas into a fuel tank of an automobile that uses the hydrogen gas as a fuel by using an fuel filling apparatus, wherein the fuel filling apparatus comprises a flow modulating valve for modulating a supply amount of the hydrogen gas and a cooling means using a liquid inert gas as a refrigerant for cooling the hydrogen

Application No.: 10/529,130

Docket No.: JCLA12006

gas, wherein the liquid inert gas not mix with the hydrogen gas, and the

fuel filling method comprising:

cooling the hydrogen gas passing through the flow modulating valve

by using the cooling means; and

filling the cooled hydrogen gas into the fuel tank.

... (Emphasis added)

Pevzner (col. 4, lines 2-7) discloses, "A gaseous hydrogen outlet conduit 18 feeds gas to a lower portion of a gas/liquid mixer 20. A liquid hydrogen outlet conduit 22 feeds liquid hydrogen through a control valve 24 to an upper portion of gas/liquid mixer 20. A porous packing 25 enables gas entering, via conduit 18, into gas/liquid mixer 20 to percolate upwardly to an outlet conduit 26." Pevzner discloses that "The liquid hydrogen is used as a refrigerant. The gaseous hydrogen and liquid hydrogen are mixed in the gas/liquid mixer 20." However, in present invention, a liquid inert gas is used as a refrigerant. The liquid inert gas and the gaseous hydrogen are not mixed. The Pevzner fails to teach or suggest the limitation of "using a liquid inert gas as a refrigerant, wherein the liquid inert gas not mix with the hydrogen gas." as required by the present invention, as set forth in claims 9.

White also fails to teach or suggest the limitation of "using a liquid inert gas as a refrigerant, wherein the liquid inert gas not mix with the hydrogen gas." as required by the present invention, as set forth in claims 9.

For failing to teach each and every limitation as set forth in claim 9, Pevzner and White cannot be construed as anticipating the present invention, as set forth in claim 9. As such, claim

JUN 26 2007

Application No.: 10/529,130

Docket No.: JCLA12006

9 is submitted to be novel and unobvious over Pevzner, White, or any of the other cited references, taken alone or in combination, and thus should be allowed. For at least the same reasons, dependent claim 10 patently define over the prior art as a matter of law.

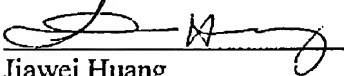
CONCLUSION

For at least the foregoing reasons, it is believed that all the pending claims 4-10 of the present application patently define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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